

**AMENDMENTS TO THE DRAWINGS**

The attached sheets of drawings include changes to FIGs. 1-5. These sheets replace the original sheets including FIGs. 1-5. FIGs. 1-5 have been amended to add the label "Prior Art."

Attachments: Replacement Sheets

**REMARKS**

Applicants hereby amend FIGs. 1-5 to add the labels "Prior Art."

Reexamination and reconsideration are respectfully requested in view of the following Remarks.

**RESPONSE TO ELECTION/RESTRICTION REQUIREMENT**

In Response to the Election Requirement in the Office Action dated 9 August 2005, Applicants elect the species of Embodiment 1, shown in FIGs. 6-8. Applicants respectfully submit that claims 1-4 read on the elected embodiment.

This election is made with traverse for the reasons set forth in detail below.

Applicants also respectfully submit that claim 1 is **generic** to both the first through fourth embodiments, covering claims 1-19. From a simple reading of claims 1 and 5, it is abundantly clear that claim 1 is generic to any species covered by claim 5, which includes all of the features of claim 1, plus the additional feature that the first through Nth semiconductor chips include direct input/output pads which directly receive external signals input via corresponding pins of the multi-chip package (see 37 C.F.R. § 1.141).

Accordingly, upon the allowance of claim 1, Applicants respectfully submit that claims 5-19 should be added back into the application.

Furthermore, Applicants also respectfully object to the Finality of the Election Requirement in the Office Action dated 9 August 2005, for at least the following reasons.

**Objection to Finality**

The Office Action dated 9 August 2005 for the first time identifies four possible species in the application, identified by the Examiner as the embodiments of FIGs. 6-8, 9, 10, and 11, respectively. Since this is the first time that this particular Election Requirement has been made, Applicants respectfully submit that the Finality is improper.

In this regard, Applicants note that a defective attempt at an "Election

Requirement” appeared in the Office Action dated 27 June 2005. But that so-called Election Requirement was in fact nothing of the kind. That earlier Office Action purported to identify four species as corresponding to claims 1-4, 5-9, 10-14, and 15-19. However, as pointed out by Applicants in the Response filed on 22 July 2005, M.P.E.P. § 806.04(e) states that:

“Claims are definitions of inventions. *Claims are never species.* Claims may be restricted to a single disclosed embodiment (i.e., a single species, and thus be designated a *specific species claim*), or a claim may include two or more of the disclosed embodiments within the breadth and scope of definition (and thus be designated a *generic or genus claim*).” (Emphasis in original)

As Applicants noted in that earlier-filed Response, the Examiner had improperly defined the alleged species in terms of groups of claims, instead of embodiments and Applicants therefore traversed the election of species requirement as being improper, stating that “[i]f the Examiner believes that the invention includes multiple species, Applicants respectfully request that the Examiner properly identify the embodiments that correspond to the alleged species, such as by reference to the drawings and/or specification.”

Here, in the Office Action dated 9 August 2005, for the very first time, the Examiner has complied with the M.P.E.P. as noted by Applicants, and has now “identif[ied] the embodiments that correspond to the alleged species . . . by reference to the drawings.”

Therefore, Applicants respectfully submit that the Office Action dated 9 August 2005 includes a real Election Requirement for the first time. Accordingly, Applicants respectfully submit that the Finality is improper, and Applicants respectfully request that the Election Requirement be reconsidered in view of the

following Remarks. **The Finality being improper, Applicants also respectfully reserve the right to Petition for withdrawal of the Election requirement in the event that the Examiner maintains the Requirement after review of the following Remarks.**

**Traversal of Election Requirement**

Applicants traverse the election requirement for at least the following reasons.  
M.P.E.P. § 806.04(f) provides that:

“Claims to be restricted to different species must be mutually exclusive. The general test as to when claims are restricted, respectively, to different species is the fact that one claim recites limitations which under the disclosure are found in a first species but not in a second, while a second claim recites limitations disclosed only for the second species and not the first. This is frequently expressed by saying that claims to be restricted to different species must recite the mutually exclusive characteristics of such species.”

Here, the requirement of mutual exclusivity has clearly not been met. In particular, for example, claim 5 of Species 2 cannot possibly be mutually exclusive of claim 1 of Species 2, since claim 5 includes all of the features of claim 1!!! Similarly, neither claim 10 of Species 3 nor claim 15 of Species 4 is mutually exclusive of claim 1, which is clear from a simple reading of these three claims.

Accordingly, under M.P.E.P. § 806.04(f), restriction is improper.

Furthermore, M.P.E.P. § 803 provides that:

“If the search and examination of an entire application can be made without serious burden, the examiner **must** examine it on the merits, even though it includes claims to independent or distinct inventions.”

(emphasis added).

In particular, Applicants specifically traverse the statement that the claims “need four entirely different fields of search.” For example, any reasonable search for claims 5, 10 and 15 would necessarily encompass the search for the prior art for claim 1, which is generic to claim 5 and closely related to claims 15 and 19.

Therefore, Applicants respectfully submit that the Examiner has failed to make a *prima facie* case that examination of the entire application cannot be made without serious burden.

Finally, Applicants very specifically traverse the statement that “non-restriction would mean that if one of the inventions were held to be unpatentable then other would also be inherently held to be unpatentable” Applicants respectfully submit that this statement fundamentally miscomprehends the “independent and distinct” requirement of 37 CFR § 1.141.

Accordingly, for at least these reasons, Applicants respectfully traverse the Election Requirement.

### **35 U.S.C. § 103**

The Office Action rejects claims 1-4 under 35 U.S.C. § 103(a) over Hayashi et al. U.S. Patent Publication 2003/0015733 (“Hayashi”) in view of Perino et al. U.S. Patent 6,621,155 (“Perino”).

Applicants respectfully traverse those rejections for at least the following reasons.

#### **Claim 1**

Among other things, in the package of claim 1, each of the semiconductor chips includes an internal pad for coupling an input/output driver and an internal circuit of the chip, wherein the internal pads of the semiconductor chips are coupled to each other and wherein the second through Nth semiconductor chips indirectly receive the input/output signal via the internal pads, which are coupled to each other.

Applicants respectfully submit that the cited references, alone or collectively,

do not disclose or suggest a package including such a combination of features.

At the outset, Hayashi does not disclose an internal pad as featured in claim 1. The Office Action, citing paragraph [0066] of Hayashi states that element 29 in Hayashi supposedly corresponds to the recited internal pad. However: (1) paragraph [0066] of Hayashi does not even mention any element 29 (or any other element corresponding to the recited internal pad); and (2) Hayashi clearly discloses that element 29 is a selector circuit comprising a plurality of switching circuits. There is nothing in Hayashi that even remotely suggests that element 29 (or any other element) corresponds to an internal pad suitable for being coupled to similar pads in a plurality of other chips. And this is with good reason, since Hayashi discloses that the chips 1 and 2 are connected by the pads PD1 and PD2. However, the pads PD1 and PD2 do not correspond to the recited internal pads, at least because they do not coupling an input/output driver and an internal circuit, because neither of the semiconductor chips indirectly receive an input/output signal via the internal pads, etc.

Meanwhile, Perino does not remedy these shortcomings of Hayashi. Like Hayashi, Perino also does not disclose any internal pads as recited in claim 1. In particular, in the cited FIG. 9, it is very clear that none of the pads connected by the bondwire bus 930 couple an input/output driver and an internal circuit.

So no possible combination of Hayashi and Perino could possibly produce a device having the features of claim 1.

Furthermore, Applicants respectfully traverse the proposed combination of Hayashi with Perino as lacking any motivation or suggestion in the prior art.

The Office Action states that one of skill in the art at the time the invention was made would have been motivated to somehow (???) combine Hayashi with Perino “to provide an IC device having stacked dies with effectively isolating pins to be on the multi-chip device, citing col. 14, lines 29-30.

Applicants respectfully disagree. At most, the cited text might have provided some motivation to somehow (???) modify Hayashi to include “[a] plurality of via connections [to] couple pads on [one chip] to external leads or solder balls

separately.” But that is not what is claimed, and so the proposed combination is respectfully traversed. Indeed, neither the cited text nor anything else in Perino would have suggested modifying Hayashi to provide on each chip an internal pad for coupling an input/output driver and an internal circuit of the chip, wherein the internal pads of the semiconductor chips are coupled to each other and wherein the second through Nth semiconductor chips indirectly receive the input/output signal via the internal pads, which are coupled to each other.

Accordingly, for at least these reasons, Applicants respectfully submit that claim 1 is patentable over the cited prior art.

#### Claims 2-4

Claims 2-4 depend from claim 1 and are deemed patentable over the cited prior art for at least the reasons set forth above with respect to claim 1, and for the following additional reasons.

#### Claim 2

Among other things, in the package of claim 2 the internal pads are coupled to each other via a common pad installed at a substrate.

Applicants submit that the prior art, alone or in combination, does not disclose a package including such a feature.

The Office Action states that Perino shows such a feature in FIG. 9.

Applicants respectfully disagree. At the outset, substrate 960 of Perino does not show any common pad (perhaps this is why the Office Action fails to cite any element as corresponding to the recited common pad). Second, in Perino none of the chips 910a-d has any internal pads as recited in claim 1. Third, the pads of the chips 910a-d are directly coupled together, not coupled through anything having to do with substrate 960. Fourth, the Office Action fails to provide any motivation to modify Hayashi to include such a feature, and so Applicants traverse the proposed combination.

Accordingly, for at least these additional reasons, Applicants respectfully submit that claim 2 is patentable over the cited prior art.

Claim 3

Among other things, in the package of claim 3 the input/output pad of the first semiconductor chip is bonded to one of the pins of the multi-chip package.

Applicants submit that the prior art, alone or in combination, does not disclose a package including such a feature.

The Office Action states that Perino shows such a feature in FIG. 9.

Applicants respectfully disagree. Perino does not show any pins of any multi-chip package (perhaps this is why the Office Action fails to cite any element as corresponding to the recited common pad). Also, the Office Action fails to provide any motivation to modify Hayashi to include such a feature, and so Applicants traverse the proposed combination.

Accordingly, for at least this additional reason, Applicants respectfully submit that claim 3 is patentable over the cited prior art.

Claim 4

Among other things, in the package of claim 4, each of the first through (N-1)th semiconductor chips includes a delay circuit for receiving the input/output signal simultaneously with the internal circuit of the Nth semiconductor chip.

Applicants submit that the prior art, alone or in combination, does not disclose a package including such a feature.

The Office Action does not cite anything in the prior art as supposedly disclosing such a feature, or any motivation or suggestion in the prior art for modifying the cited references to include such a feature.

Instead, the Office Action merely states that "it would have been obvious." It is well established that such unsupported statements cannot support a rejection under 35 U.S.C. § 103. At the outset, M.P.E.P. § 2144.01 provides that:

"Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly



or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art.”

Here, the Office Action does not cite anything at all in support of its proposed motivation to modify the prior art to include the feature of claim 4. A rejection under 35 U.S.C. § 103 must be based on objective evidence of record, and cannot be supported merely on subjective belief and unknown authority. M.P.E.P. § 2144.03 provides that:

“there must be some form of evidence in the record to support an assertion of common knowledge. See In re Lee, 277 F.3d at 1344-45, 61 USPQ2d at 1434-35 (Fed. Cir. 2002); Zero, 258 F.3d at 1386, 59 USPQ2d at 1697 (holding that general conclusions concerning what is “basic knowledge” or “common sense” to one of ordinary skill in the art without specific factual findings and some concrete evidence in the record to support these findings will not support an obviousness rejection).”

(Emphasis added). See also In re Lee, 277 F.3d at 1343-44, 61 USPQ2d at 1433-34 (Fed. Cir. 2002) (the examiner’s finding of whether there is a teaching, motivation or suggestion to combine the teachings of the applied references must not be resolved based on “subjective belief and unknown authority,” but must be “based on objective evidence of record.”).

No such concrete evidence has been provided by the Examiner here, nor did the Examiner submit an affidavit as required by 37 C.F.R. § 1.104(d)(2) if this proposed motive were based on facts within his personal knowledge (see M.P.E.P. § 2144.03). Applicants requests such an affidavit if this rejection continues to be maintained based a motive for modification not explicitly suggested in the prior art.

Accordingly, for at least these additional reasons, Applicants respectfully

submit that claim 4 is patentable over the cited prior art.

### CLAIMS 5-19

As noted before, it is believed that claim 1 is generic to claims 1-19. Claim 1 now being in condition for allowance, Applicants respectfully request that claims 5-19 be added back into the application and allowed at this time.

### CONCLUSION

In view of the foregoing explanations, Applicants respectfully request that the Examiner reconsider and reexamine the present application, allow claims 1-19, and pass the application to issue. In the event that there are any outstanding matters remaining in the present application, the Examiner is invited to contact Kenneth D. Springer (Reg. No. 39,843) at (571) 283-0720 to discuss these matters.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 50-0238 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17, particularly extension of time fees.

Respectfully submitted,

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